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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,708	07/14/2003	Robert J. Small	CHEM.004US2	7752

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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/619,708

Applicant(s)

SMALL ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19, 21-23, 26-36, 38-44, 49, 51-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21-23, 26-36, 38-44, 49, 51-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/14/03, 3/8/04, 3/25/04 & 4/26/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

The disclosure is objected to because of the following informalities:

The specification is objected to because the status of the parent application is not defined (i.e. abandoned).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19, 21-23, 26-36, 38-44, 49 and 51-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. in view of Shadman et al. and Nishii et al. and further in view of Beital et al., Fang, and Yano et al.

Mueller et al. teach in column 3, lines 4-7, column 5, line 29-column 6, line 45, column 7, lines 1-37, column 8, lines 25-50, column 9, line 61-column 10, line 50, column 11, lines 13-18, and the claims, a polishing slurry for polishing a substrate (generalized in claim 15) comprising 0.1-20% of an oxidizing agent (hydrogen peroxide), 0.001-25% of an insoluble solid catalyst (photoactive solid catalysts) and 0.1-20% of an abrasive. The composition can also include other additives, such as, stabilizers, in an amount of about 0.001-about 0.2%. The polishing slurry has a pH of between 2-11. The reference states that the solid catalyst includes all solid materials (i.e. oxide, etc.) that meet the definition in column 7, lines 1-4 and defines specific examples. Column 13, line 22 also define this catalyst a "photoactive solid catalyst".

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The solid catalyst can be chemically or physically associated with the surface of the abrasive as a molecular species (i.e. coating). Column 1, lines 10-20 defines substrates that the polishing composition can be used for.

Shadman et al. teach in the abstract that copper oxide is as a well known photoactive catalyst.

Nishii et al. teaches in column 5, lines 42-45 that an iron compound is a known photoactive catalysts.

Beital et al. teach in claim 6, that ozone and metal salts are known oxidizing agents for CMP slurries.

Fang teaches in column 4, lines 1-13, that hydroxylamine salts and metal salts are known oxidizing agents for CMP slurries.

Yano et al. teach in column 10, line 57-column 11, line 1, that some of the claimed abrasive particles (organics and composites) are known abrasive particles to be used in CMP slurries.

The primary reference teaches a composition which meets the above claims because column 5, lines 55-58 implies that the catalyst is coated on the abrasive. With respect to the catalyst, it is the examiners position that the solid catalyst of the reference includes and therefore makes obvious the other claimed catalysts because it is the examiners position that these catalyst meet the criteria defined in column 7, lines 1-4 and the reference is not limited to the ones defined therein (non-limiting examples) in the absence of any evidence showing the contrary. To support the examiners position and as an example, the primary reference calls the catalyst a "photoactive catalyst" (column 6, lines 42+) and copper and iron compounds are all known

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photoactive catalyst, as shown by Shadman et al. and Nishii et al. In view of this, the claimed specific catalyst(s) is(are) obvious because they are photoactive catalysts. With respect to the coating coverage, it is the examiner position that since the reference teaches that the abrasive can be coated with the catalyst, this implies the claimed coverage's. In view of this, it is therefore the examiners position that since the reference fails to mention any specific coating coverage (criticality), this (the absence of any such limitation) constitutes a broad teaching of coating coverage's and therefore it can be reasonably interpreted that the claimed coating coverage's are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). With respect to the uncoated particles, it is the examiners position that the reference also implies that the abrasive does not necessarily have a catalyst coating, thus reading on a mixture of catalyst coated abrasive particle in combination with uncoated abrasive particles. With respect to the use of other oxidizers (ozone, etc.), it is the examiners position that it would have been obvious to use any of the oxidizers, as shown by Beital et al. and Fang, as the oxidizers in the composition according to Mueller et al. because the substitution one known oxidizer for another that is to be used for the same purpose is well within the level of ordinary skill in the art. In addition, it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material that is to be used for the same purpose (i.e. a combination of oxidizers). In re Kerkhoven 205 USPQ 1069. It is also the examiners position that it would have been obvious to use any of the abrasive particles, as shown by Yano et al., as the abrasive particles in the composition according to Mueller et al. because the substitution one known abrasive particle for another that is to be used for the same purpose is well within the level of ordinary skill in the art. Finally, with respect to the characteristics of the

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abrasive (size, surface area and size distribution), the primary reference teaches sizes and surface areas which broadly encompass the claimed ranges. The sizes defined by the reference broadly suggest a distribution, thus making the claimed limitation obvious.

With respect to the method claims, the primary reference generally claims a substrate in a similar the polishing method and this generalization broadly encompasses all the claimed substrates because **"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".** With respect to the characteristics defined, it is the examiners position that these characteristics are expected with the use of the reference polishing slurry because said slurry is the same and the same slurry is expected to yield the same polishing characteristics on a substrate. Finally, it is the examiners position that the recycling limitation is obvious because this will be more economical and economics is a basis for obviousness.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-19, 21-23, 26-36, 38-44, 49 and 51-97 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-63 of copending Application No. 10/393,542. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the copending claims would render obvious the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-19, 21-23, 26-36, 38-44, 49 and 51-97 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-74 of copending Application No. 10/361,822. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the copending claims would render obvious the instant claims. Although the claims of the copending application are not directed to a substrate, the instantly claimed subject matter is an obvious variation of said claims. The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter. Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

In view of the above rejections, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary.

Applicants are reminded that "about" permits some tolerance, *In re Ayers*, 154 F 2d 182, 69 USPQ 109.

The desired particle size is a function of the application and mere recitation of that size does not represent a patentable distinction over this reference to one of ordinary skill in the art, lacking evidence to the contrary.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".



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The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.

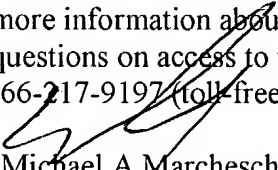
Evidence of unexpected results must be commensurate in scope with the subject matter claimed.

*In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael A Marcheschi  
Primary Examiner  
Art Unit 1755

MM  
6/17/04